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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,683	07/28/2003	Michael Redecker	6161.0065.AA	4561

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EXAMINER	
WILSON, SCOTT R	

ART UNIT	PAPER NUMBER
2826	

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/627,683	REDECKER ET AL.	
	Examiner	Art Unit	
	Scott R. Wilson	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) *1-8,15-29 and 35-39* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-14 and 30-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 July 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of claims 9-14 and 30-34 in the reply filed on 8 October 2004 is acknowledged. The traversal is on the ground(s) that the search and examination of the entire application could be made without serious burden. This is not found persuasive because the method steps, as well as their sequence would have to be searched.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

Figure 7 is objected to under 37 CFR 1.83(a) because it fails to show areas with high surface energy and areas with low surface energy, defined by the PDL 115, as described on page 16, lines 14-15 of the specification. The PDL layer 115 appears to be single layer with uniform surface energy. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 31-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Hatanaka et al.. As to claim 31, Hatanaka et al., paragraph [0078] and claim 4, discloses a pixel define layer (PDL), wherein the PDL defines at least one area of the organic electroluminescence device with a high surface energy and at least one area of the organic electroluminescence device with a low surface energy. Hatanaka et al., paragraph [0088] measured the surface energy of the exposed high surface energy area to be 58.9 dyne/cm, and the surface energy of the masked low surface energy area to be 27.3 dyne/cm.

As to claim 32, Hatanaka et al., paragraph [0078], discloses that a surface energy of an area of the organic electroluminescence device where the PDL is not formed is high.

As to claim 33, Hatanaka et al., paragraph [0078], discloses that at least one layer is provided on the PDL, and a surface of the layer includes at least one area with a high surface energy and at least one area with a low surface energy.

As to claim 34, Hatanaka et al., paragraph [0078], discloses that the PDL is a photo-resist coating layer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the

> subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatanaka et al. in view of Sreenivasan et al.. As to claim 9, Hatanaka et al., paragraph [0078] and claim 4, discloses a substrate having a non-continuous photo-resist coating layer and a pixel defining layer [paragraph 0001] formed on at least one surface of a supporting substrate, wherein the non-continuous photo-resist coaling layer and pixel defining layer comprises a plurality of continuous portions, and the plurality of continuous portions comprise: at least one high surface energy area; and at least one low surface energy area, wherein at least one of a second photo-resist coating layer and a mask is used to at least temporarily overlap the continuous portion corresponding to the at least one high surface energy area in order to form the at least one low surface energy area. Hatanaka et al., paragraph [0088] measured the surface energy of the exposed high surface energy area to be 58.9 dyne/cm, and the surface energy of the masked low surface energy area to be 27.3 dyne/cm. Hatanaka et al. does not disclose expressly a dedicated insulating layer formed near the pixel defining layer. Sreenivasan et al., paragraph [0150], discloses an insulating layer as part of a substrate and a pixel defining layer. Sreenivasan et al. also discloses, in paragraph [0120], a surface treatment comprising a mask which forms a low surface energy region. Sreenivasan et al. discloses that an untreated surface has a typical surface energy of about 65 dyne/cm. This is lowered to 20-40 dyne/cm, after treatment. At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Sreenivasan et al. with that of Hatanaka et al.. The motivation for doing so would have been to form a working pixel with micro- and nano-imprint lithography processes (Sreenivasan et al., paragraph [0002]). Therefore, it would have been obvious to combine Sreenivasan et al. with Hatanaka et al. to obtain the invention as specified in claim 9.

As to claim 10, Hatanaka et al., paragraph [0088] measured the surface energy of the exposed high surface energy area to be 58.9 dyne/cm, and the surface energy of the masked low surface energy area to be 27.3 dyne/cm.

As to claim 11, Hatanaka et al., paragraph [0078], discloses that the supporting substrate is rigid.

As to claim 12, Sreenivasan et al., paragraph [0200], discloses that the supporting substrate may be flexible.

As to claim 13, Hatanaka et al., paragraph [0078], discloses that the substrate may be glass.

As to claim 14, Hatanaka et al., Abstract, discloses that the non-continuous photoresist coating material may be polyimide resin.

Claim 30 is a **product-by-process claim**:

> Note that a "product by process" claim is directed to the product per se, no matter how actually made, *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also *In re Thorpe,* 227 USPQ 964, 966; *In re Luck*, 177 USPQ 523; *In re Fessmann*, 180 USPQ 324; *In re Avery*, 186 USPQ 161*; In re Wertheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); and *In re Marosi* et al., 218 USPQ 289, all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in " product by process" claims or not. Note that applicant has the burden of proof in such cases, as the above case law makes clear. See also MPEP 2113.

Claim 30 does not distinguish over Hatanaka et al. and Sreenivasan et al. regardless of the process used to form the organic electroluminescence device, because only the final product is relevant, and not the process of making such as *using the method of claim 15.*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott R. Wilson whose telephone number is 571-272-1925. The examiner can normally be reached on M-F 8:30 - 4:30 Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

srw
December 17, 2004

NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
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